January 15,1988

Docket No. 50-410

DISTRUBTION

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Mr. Charles V. Mangan
Senior Vice President
Niagara Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Dear Mr. Mangan:

SUBJECT: INSERVICE TESTING PROGRAM FOR NINE MILE POINT, UNIT 2

On December 3 and 4, 1987 the NRC staff and its consultants from Idaho National Engineering Laboratories (INEL) met with members of your staff and its consultants from Gilbert/Commonwealth and Nuclear Energy Systems at the Nine Mile Point site to discuss the Inservice Testing (IST) program for Pumps and Valves for Nine Mile Point, Unit 2 (NMP-2). Our December 2, 1987 request for additional information (RAI) provided the agenda for that meeting. Enclosed is the meeting summary for that meeting. Enclosure 2 to the meeting summary contains the questions from the December 2, 1987 RAI and the responses to each of those questions as taken from the meeting minutes. The discussions at the December 3 and 4, 1987 meeting resulted in 7 open items for Niagara Mohawk and 1 open item for the NRC which are identified in Enclosure 2 to the meeting summary. Specifically, the one open item for the NRC concerned documentation of the NRC position on testing the emergency diesel generator air start valves.

The Niagara Mohawk position as stated at the meeting was that the diesel generator air start valves were not designed in accordance with ASME Section III requirements and therefore they are not required to be inspected in accordance ASME Section XI. However, 10 CFR 50.55a states that "Structures, systems, and components shall be designed, fabricated, erected, constructed, tested, and inspected to quality standards commensurate with the importance of the safety function to be performed." It is the staff's position that pumps and valves (Code and non-Code) that perform a safety-related function are required by 10 CFR 50.55a to be included in the IST program. Pumps and valves that do not perform a safety-related function, even if they were designed and constructed in accordance with ASME Section III requirements, are not required to be included in the IST program. The diesel generator air start system (from the check valve(s) between the compressors(s) and the air receiver(s) to the engine including the air start solenoids) has a safety-related function. The valves in this portion of the system must be included in the proposed program.

Item 1.A.14 in Enclosure 2 to the meeting summary discusses Code Case N-415. Code Case N-415 is addressed in Regulatory Guide 1.147. As stated in Regulatory Guide 1.147 D.1, a specific request for authorization should be submitted in accordance with footnote 6 to 10 CFR 50.55a for Code Cases listed in that guide which are to be used.

Within 30 days of the date of this letter please provide: (1) responses sufficient to close the 7 open items for Niagara Mohawk as noted in the meeting summary; (2) a commitment to the positions agreed to at the meeting as documented in the meeting summary; (3) a commitment to include the emergency diesel generator air start valves and associated check valves in the IST program (refer to item 1.E.2 in the meeting summary and the discussion above); and (4) a request for approval of any Code Cases to be used in the IST program in accordance with 10 CFR 50.55a. Within 60 days of the date of this request please submit a revised IST program that addresses the commitments made as a result of the December 3 and 4, 1987 meeting.

Sincerely,

Mary F. Haughey, Project Manager
Project Directorate I-1
Division of Reactor Projects, I/II

Enclosure
As stated

cc: See next page

*SEE PREVIOUS CONCURRENCE

PDI-1	EMEB	PDI-1	PDI-1
MHaughey*	LMarsh*	CVogan	for RCapra
1/ /88	1/ /88	1/14/88	1/15/88

Item 1.A.14 in Enclosure 2 to the meeting Summary discusses Code Case N-415. Code Case N-415 is addressed in Regulatory Guide 1.147. As stated in Regulatory Guide 1.147 D.1, a specific request for authorization should be submitted in accordance with footnote 6 to 10CFR 50.55a for Code Cases listed in that guide which are to be used.

Within 30 days of the date of this letter, please provide responses sufficient to close the 7 open items for Niagara Mohawk as noted in the meeting summary, a commitment to the positions agreed to at the meeting as documented in the meting summary, a commitment to included the emergency diesel generator air start valves and associate check valves in the IST program (refer to item 1.E.2 in the meeting summary and the discussion above), and a request for approval of any Code Cases to be used in the IST program in accordance with 10CFR 50.55a. Within 60 days of the date of this request please submit a revised IST program that addresses the commitments made as a result of the December 3 and 4, 1987 meeting.

Sincerely,

Mary F. Haughey, Project Manager
Project Directorate I-1
Division of Reactor Projects, I/II

Enclosures:
As stated

cc: See next page

PDI-1	EMEB	PDI-1
MHaughey	LMarsh	RCapra
1/6/88	1/11/88	1/ /88

Mr. C. V. Mangan
Niagara Mohawk Power Corporation

Nine Mile Point Nuclear Station
Unit 2

cc:
Mr. Troy B. Conner, Jr., Esq.
Conner & Wetterhahn
Suite 1050
1747 Pennsylvania Avenue, N.W.
Washington, D.C. 20006

Richard Goldsmith
Syracuse University
College of Law
E. I. White Hall Campus
Syracuse, New York 12223

Ezra I. Bialik
Assistant Attorney General
Environmental Protection Bureau
New York State Department of Law
2 World Trade Center
New York, New York 10047

Resident Inspector
Nine Mile Point Nuclear Power Station
P. O. Box 99
Lycoming, New York 13093

Mr. Gary Wilson, Esquire
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

Peter E. Francisco, Licensing
Niagara Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Don Hill
Niagara Mohawk Power Corporation
Suite 550
4520 East West Highway
Bethesda, Maryland 20814

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Mr. Paul D. Eddy
New York State Public Serice
Commission
Nine Mile Point Nuclear Station -
Unit II
P.O. Box 63
Lycoming, New York 13093

Mr. Richard M. Kessel
Chair and Executive Director
State Consumer Protection Board
99 Washington Avenue
Albany, New York 12210

Mr. Richard Abbott, Unit 2 Station
Superintendent
Nine Mile Point Nuclear Station
Niagara Mohawk Power Corporation
P. O. Box 32
Lycoming, NY 13093

Mr. Thomas Perkins, General Supt.
Nine Mile Point Nuclear Station
Niagara Mohawk Power Corporation
P. O. Box 32
Lycoming, NY 13093

ENCLOSURE 2

NINE MILE POINT NUCLEAR STATION, UNIT 2
PUMP AND VALVE INSERVICE TESTING PROGRAM
MEETING MINUTES

1. VALVE TESTING PROGRAM

A. General Questions and Comments

1. If a manual operator is used to full-stroke exercise check valves that cannot be full-stroke exercised with flow, is the force or torque that is applied to the mechanical exerciser measured to assure compliance with IWV-3522(b)?

RESPONSE:

Where applicable, the licensee complies with the requirements of IWV-3522(b).

2. The NRC has concluded that the applicable leak test procedures and requirements for containment isolation valves are determined by 10CFR50, Appendix J. Relief from paragraphs IWV-3421 through 3425 for containment isolation valves presents no safety problem since the intent of IWV-3421 through 3425 is met by Appendix J requirements, however, the licensee shall comply with Paragraphs IWV-3426 and 3427. General Relief Request GVRR-1 does not comply with this staff position.

RESPONSE:

The licensee has committed to comply with the requirements of IWV-3426 and 3427. Relief Request GVRR-1 will be revised to request relief from the requirements of IWV-3421 through 3425 for valves that are Appendix J, Type C, leak tested.

3. Provide a listing of all valves that are Appendix J, Type C, leak rate tested which are not included in the IST program and Categorized A or AC?

RESPONSE:

All valves that are Appendix J, Type C, leak tested are included in the IST program as Category A or A/C valves. Any changes made to the licensee's Appendix J leak rate program will be reflected in the IST program to ensure agreement between the programs.

4. The NRC staff has identified rapid-acting power operated valves as those which stroke in 2 seconds or less. Relief may be obtained from the trending requirements of Section XI, Paragraph IWV-3417(a), however, in order to obtain this Code relief the staff does require that the licensee assign a maximum limiting stroke time of 2 seconds to these valves and comply with the requirements of IWV-3417(b) when the 2 second limit is exceeded. General valve relief request GVRR-3 does not comply with this staff position.

RESPONSE:

Relief request GVRR-3 will be revised to cover only rapid acting valves whose limiting value of full-stroke time is 2 seconds.

5. Provide the limiting values of full-stroke times for the power operated valves in the Nine Mile Point Nuclear Station, Unit 2, IST program for our review. What are the bases used to assign the limiting values of full-stroke time for these valves?

RESPONSE:

The licensee will provide a listing of the limiting values of full-stroke times for all power operated valves that are included in the IST program as a supplement to their IST program resubmittal. The basis for determining these limits will be described in the provided table. The licensee uses empirically derived data to assign limiting values of full-stroke times for these valves.

6. When flow through a check valve is used to indicate a full-stroke exercise of the valve disk, the NRC staff position is that verification of the maximum flow rate identified in any of the plant's safety analyses through the valve would be an adequate demonstration of the full-stroke requirement. Any flow rate less than this will be considered partial-stroke exercising unless it can be shown (by some means such as measurement of the differential pressure across the valve), that the check valve's disk position at the lower flow rate would permit maximum required flow through the valve. Does the Nine Mile Point Nuclear Station, Unit 2, IST program conform to this staff position?

RESPONSE:

The licensee complies with this NRC staff position except where specifically addressed in valve relief requests which indicate that valves are only partial-stroke exercised utilizing flow.

7. The relief request and cold shutdown justification bases should indicate the negative consequences that make testing at the Code required frequency impractical such as endangering personnel, damaging equipment, or resulting in a plant shutdown.

RESPONSE:

This position was discussed and the licensee has committed to modify affected relief requests to include the negative consequences of performing testing at the Code required frequency.

8. Which valves at Nine Mile Point Nuclear Station, Unit 2, are currently leak rate tested to verify a pressure boundary isolation function?

RESPONSE:

All valves that perform a pressure boundary isolation function as identified in the plant Technical Specifications are included in the IST program as Category A or A/C valves and receive an "LK-R" (Section XI) leak rate test.

9. Provide a more detailed technical justification for not testing the excess flow check valves quarterly during power operations and during cold shutdowns (refer to General Relief Request GVRR-2).

RESPONSE:

Relief request GVRR-2 will be revised to include additional technical justifications for not exercising the excess flow check valves quarterly during power operations or during cold shutdowns.

10. How are the remote position indicators being verified for solenoid operated valves in the Nine Mile Point Nuclear Station, Unit 2, IST program?

RESPONSE:

Remote position indication for solenoid operated valves is verified by observing system parameters such as pressure or flow. A discussion concerning this topic will be added to the IST program resubmittal.

11. <u>Deleted</u>

12. Provide P&IDs 52A AND 52G for our review.

RESPONSE:

The P&IDs were provided. There are no further questions.

13. When a cold shutdown justification addresses a frequency interval greater than each cold shutdown (not to exceed one test every three months) it should be presented in the form of a relief request (refer to the discussion in the "Cold Shutdown Testing" section of Cold Shutdown Test Justifications CSH-VCS-3 and ICS-VCS-4).

RESPONSE:

Cold Shutdown Test Justifications CSH-VCS-3 and ICS-VCS-4 will be deleted from the IST program since the affected valves will be exercised quarterly in accordance with the Code. This position is understood by the licensee.

14. What is the basis for using ANSI/ASME OM-1, 1981 as the alternative criteria for testing safety and relief valves instead of the criteria as outlined in ASME PTC 25.3-1976 and specified in the ASME Code Section XI, 1983 Edition through Summer of 1983 addenda?

RESPONSE:

The Code Case that approves ANSI/ASME OM-1, 1981 is N-415 which is addressed in Regulatory Guide 1.147. A copy of Regulatory Guide 1.147 was provided for our review. The licensee adopted the Code Case in their IST program plan. The acceptability of this alternate testing will be determined by the NRC.

B. Reactor Building Closed Loop Cooling System

1. Review the safety-related function of valves 2CCP*V143, V148, V161, and V277 (P&ID No. 13E-5) to determine if they should be included in the IST program and tested to the Code requirements.

RESPONSE:

Service water provides the safety grade cooling flow to the affected coolers and these check valves are not needed to

prevent diversion of service water flow since the in-line MOVs are used to perform this function.

C. High Pressure Core Spray System

1. Provide a more detailed technical justification that explains why valve 2CSH*AOV108 cannot be exercised utilizing system flow quarterly during power operations (refer to cold shutdown test justification CSH-VCS-1).

RESPONSE:

Cold shutdown test justification CSH-VCS-1 will be modified to include a justification for not exercising valve 2CSH*AOV108 with flow quarterly, such as the thermal shock concern which could reduce the expected life of system components.

2. How is the reverse flow closure of valves 2CSH*V17 and V55 individually verified?

RESPONSE:

This is an OPEN ITEM for the licensee to determine whether either or both of these valves perform a safety function in the closed position.

3. Relief Request No. CSH-VRR-1 indicates that the reverse flow closure of valve 2CSH*V59 will be verified by disassembly and inspection of the valve during refueling outages. Valve disassembly and inspection is an acceptable method to verify the reverse flow closure of a check valve, but this is not the preferred method. What other test methods have been considered for this valve?

RESPONSE:

This valve will not be disassembled and inspected for IST testing purposes; it will either be verified to close on flow reversal quarterly or it will be tested on a cold shutdown frequency and a cold shutdown justification will be provided.

4. How is valve 2CSH*V7 verified to full-stroke exercise open during quarterly testing?

RESPONSE:

Sufficient flow to protect the HPCS pump is verified through the minimum flow recirculation line by measuring pump differential pressure while running the pump in the recirculation path. During quarterly pump testing, it is verified that the pump is not degraded by measuring the flow rate and differential pressure at full design pump flow.

D. Low Pressure Core Spray System

1. Provide a more detailed technical justification that explains why valve 2CSL*AOV101 cannot be exercised utilizing system flow quarterly during power operations (refer to cold shutdown test justification CSL-VCS-1).

RESPONSE:

The licensee will modify cold shutdown test justification CSL-VCS-1 to include the reasons that testable check valve 2CSL*AOV101 and the in-line isolation valve MOV104 cannot be exercised quarterly during power operations. Valve 2CSL*MOV104 is interlocked with RCS pressure and cannot be opened when RCS pressure is >88 psig, therefore, flow cannot be established through 2CSL*AOV101 at RCS pressures >88 psig.

2. Provide a more detailed technical justification for not exercising valve 2CSL*MOV104 quarterly during power operations (refer to cold shutdown test justification CSL-VCS-1).

RESPONSE:

See response to D.1 above.

3. How is the reverse flow closure of valves 2CSL*V14 and V21 individually verified?

RESPONSE:

This is an OPEN ITEM for the licensee to determine whether either or both of these valves perform a safety function in the closed position.

4. How is the reverse flow closure verified for valve 2CSL*V9 during quarterly testing?

RESPONSE:

This is an OPEN ITEM for the licensee to determine a method to verify the reverse flow closure of this valve. A relief request will be provided.

5. Does valve 2CSL*V4 perform a safety-related function in the closed position? If so, how is the reverse flow closure of this valve verified?

RESPONSE:

This valve does not perform a safety-related function in the closed position. However, it is verified closed by monitoring the LPCS header parameters during power operations.

E. Standby Diesel Generator System

1. How is the reverse flow closure capability verified individually for valves 2EGA*V62A, V62B, V63A, and V63B?

RESPONSE:

These valves are tested by verifying that the air receiver pressure does not decay off rapidly when the compressor is not running and the line upstream of the valve is vented.

2. Review the safety-related function of the emergency diesel generator air start valves (2EGA*PCV25A, PCV25B, PCV26A, PCV26B, AOV323A, and AOV323B) and the associated in-line check valves (2EGA*V12A, V12B, V14A, and V14B) to determine if they should be included in the IST program.

RESPONSE:

The NRC will supply a letter to the utility to require the inclusion of the diesel air start valves in the IST program. It is an OPEN ITEM for the NRC to provide this letter. Upon receipt of this letter the utility will evaluate the diesel generator air start systems to determine which valves perform an active safety function. The applicable valves should be included in the IST program and be tested to the Code requirements.

F. Fire Protection Water System

1. Are the valves on either side of containment penetration Z-46C (P&ID No. 43G-6 coordinates H-4) Appendix J, Type C, leak rate tested as containment isolation valves? If so they should be included in the IST program and tested to the Code requirements.

RESPONSE:

No. The valves at containment penetration Z-46C are not Appendix J leak tested and need not be included in the IST program.

G. Feedwater System

1. What type of leak test do valves 2FWS*MOV21A and V21B receive? The leak test type is not specified in the NMP-2 IST program valve tables.

RESPONSE:

These valves are Appendix J, Type C, leak tested and an "LJ-R" test will be added to the IST program.

2. Provide a more detailed technical justification for not verifying the reverse flow closure of valves 2FWS*V12A and V12B during cold shutdowns.

RESPONSE:

The drywell must be de-inerted to permit the verification of the reverse flow closure of valves 2FWS*V12A and V12B. This information will be added to the relief request and the testing will be performed during refueling outages and during those cold shutdowns when the drywell is de-inerted.

H. Nitrogen System

1. Deleted

I. Instrument & Service Air System

1. Provide a more detailed technical justification for not verifying reverse flow closure for the valves identified in relief request

No. IAS-VRR-2 quarterly and during cold shutdowns. Identify the specific concerns that make this testing impractical to perform quarterly and during cold shutdowns.

RESPONSE:

The drywell must be de-inerted in order to perform this testing. This information will be added to the relief request and the testing will be performed during refueling outages and during those cold shutdowns when the drywell is de-inerted.

2. Deleted

3. Deleted

J. Reactor Core Isolation Cooling System

1. Provide a more detailed technical justification that explains why valves 2ICS*AOV156 and AOV157 cannot be exercised open utilizing system flow quarterly during power operations. How is the reverse flow closure of these valves being verified during testing at cold shutdowns (refer to cold shutdown test justification ICS-VCS-2)?

RESPONSE:

The cold shutdown test justification will be modified to provide more details. The valve air operator will be used to close this valve and the position indicator will be used to verify valve closure.

2. Is design accident flow verified through valve 2ICS*V29 during quarterly valve testing? If not, how is this valve full-stroke exercised (refer to the comment in Item A.6 of this report)?

RESPONSE:

Yes, design accident flow is verified through this valve during quarterly testing. Design flow is established through the turbine driven pump operating at design pressure quarterly.

3. How is it verified that valve 2ICS*V38 is full-stroke exercised during the quarterly valve testing?

RESPONSE:

Sufficient flow to protect the RCIC pump is verified through the minimum flow recirculation line by measuring pump differential pressure while running the pump in the recirculation path. During this testing, it is verified that the pump is not degraded by measuring the flow rate and differential pressure at full design flow.

4. Provide a more detailed technical justification that explains why it is not possible to perform the special air test to verify the forward flow capability of valves 2ICS*V39 and V40 either quarterly during power operations or during cold shutdowns (refer to Relief Request No. ICS-VRR-1).

RESPONSE:

These valves will be tested quarterly during power operations unless the radiation fields in the test connection locations are too high. If the radiation fields prevent quarterly testing, these valves will be tested at cold shutdowns and a cold shutdown test justification will be provided.

5. Does valve 2ICS*PCV115 (P&ID PID-35C-5 coordinates D-4) have a <u>required</u> fail-safe position? If so, in addition to testing its fail-safe function, this valve must be exercised and have its full-stroke time measured in accordance with the Code.

RESPONSE:

No, this valve does not have a required fail-safe position.

6. Review the safety-related function of valve 2ICS*FV108 (P&ID PID-35D-3 coordinates D-2) to determine if it should be included in the IST program.

RESPONSE:

This valve does not perform a safety-related function and it need not be included in the IST program. The downstream motor operated isolation valve is utilized to prevent the diversion of flow.

7. Is credit taken in any of NMP-2 safety analyses for the reverse flow closure of either valve 2ICS*V27 or 2ICS*V249?

RESPONSE:

The reverse flow closure of valve 2ICS*V249 is a safety-related function and will be added to the IST program. Valve 2ICS*V27 does not perform a safety-related function in the closed position.

8. Are valves 2ICS*MOV150 and HYV151 skid mounted components? Does quarterly testing of the RCIC turbine verify the operability of these valves?

RESPONSE:

Valves 2ICS*MOV150 and HYV151 are skid mounted with the RCIC turbine and are tested during quarterly turbine testing. These valves need not be included in the IST program.

9. Valve 2ICS*V28 is addressed in both ICS-VRR-2 and ICS-VCS-4. There is no indication that this valve will ever be full-stroke exercised as required by the Code. What alternate testing methods have been considered to verify the full-stroke capability of this valve?

RESPONSE:

Design accident flow cannot be established through this valve since the restricting orifice limits flow in the test path to ~75 gpm as compared to the necessary ~600 gpm. This remains an OPEN ITEM for the licensee to determine a method to verify the full-stroke capability of this valve.

K. Main Steam System

1. If valves 2MSS*SOV97A, SOV97B, SOV97C, and SOV97D have fail-safe actuators, they should be fail-safe tested in accordance with the Code requirements.

RESPONSE:

These valves are fail-safe tested quarterly and the IST program will be revised to reflect this testing.

2. Provide a more detailed technical justification that explains why repeatable test conditions cannot be established when testing the ADS valves during reactor refueling outages to allow measurement of meaningful valve stroke times in order to provide a means to detect valve degradation (refer to Relief Request No. MSS-VRR-1).

RESPONSE:

These valves do not have position indication and it is not practical to measure the stroke times using the acoustical or temperature sensors. The licensee will provide additional

justification in their relief request for not measuring the valve stroke times. 50% of the ADS valves are removed and sent to a test facility for bench testing during each refueling outage.

3. Are the ADS and main steam safety relief discharge line vacuum breakers actually relief valves as shown on the P&IDs or are they simple check valves? If they are check valves, they should be exercised as Category C valves in accordance with the requirements of IWV-3520.

RESPONSE:

These vacuum breakers are not simple check valves; they are relief valves with adjustable setpoints which are tested per IWV-3510 and need not be exercised in accordance with IWV-3520.

L. Reactor Coolant System

1. Deleted

M. Control Rod Drive Hydraulic System

1. Provide a discussion that explains how it was determined that "the technical specification for control rod scram insertion time testing meets the intent of Section XI testing requirements" (refer to Relief Request No. RDS-VRR-1).

RESPONSE:

The licensee will provide additional information in relief request RDS-VRR-1.

2. What is the frequency for scram testing the control rods at Nine Mile Point, Unit 2 (how many rods are tested at what interval)?

RESPONSE:

10% of the rods are tested every 120 days of power operation and 100% of the rods are tested each refueling outage.

3. Provide a more detailed technical justification for not exercising the 2RDS*115 valves during cold shutdowns (refer to Relief Request No. RDS-VRR-2).

RESPONSE:

The licensee will provide additional justifications for not testing these valves during each cold shutdown. The charging water header is depressurized during the rod scram testing performed during each refueling outage which allows verification of the reverse flow closure of these valves.

4. Provide a more detailed discussion about the alternate testing being performed to verify the reverse flow closure of the 2RDS*138 valves (refer to Relief Request No. RDS-VRR-3).

RESPONSE:

The licensee will provide additional information in relief request RDS-VRR-3 to demonstrate how their proposed testing verifies the reverse flow closure of the 2RDS*138 valves.

N. Residual Heat Removal System

1. Provide a more detailed technical justification that explains why valves 2RHS*AOV16A, AOV16B, and AOV16C cannot be exercised utilizing system flow quarterly during power operations (refer to cold shutdown test justification RHS-VCS-1).

RESPONSE:

The licensee will provide additional justifications for not exercising these valves quarterly during power operations.

2. Provide a more detailed technical justification that explains why valves 2RHS*AOV39A and AOV39B cannot be exercised utilizing system flow quarterly during power operations (refer to cold shutdown test justification RHS-VCS-1).

RESPONSE:

The licensee will provide additional justifications for not exercising these valves quarterly during power operations.

3. Deleted

4. Deleted

5. How is it verified that valves 2RHS*V7, V8, and V9 are full-stroke exercised during quarterly testing?

RESPONSE:

Sufficient flow to protect the RHR pumps is verified through the minimum flow recirculation line by measuring pump differential pressure while running the pumps in the recirculation path. During the quarterly pump testing, it is verified that the pumps are not degraded by measuring pump flow rates and differential pressures at full design flow.

6. What percent of a full-stroke is possible using the air operator when exercising testable check valve 2RHS*AOV150?

RESPONSE:

The test operators will stroke these valves 100% open.

7. Is valve 2RHS*MOV26A Appendix J, Type C, leak rate tested to verify its leak tight capability?

RESPONSE:

This valve is Appendix J, Type C, leak-rate tested and a "LJ-R" test will be identified in the IST program.

8. Review the safety-related function of valves 2RHS*V19, V20, V117, and V118 (P&ID PID-31D-4 coordinates B-2 and P&ID PID-31E-5 coordinates J-2 respectively) to determine if they should be included in the IST program and tested in accordance with the Code.

RESPONSE:

Due to system modifications, these valves no longer perform any safety-related function and need not be included in the IST program.

9. Review the safety-related function of valves 2RHS*LV17A and LV17B (P&IDs PID-31D-1 and 31E-1 coordinates G-5 and D-6 respectively) to determine if they should be included in the IST program.

RESPONSE:

No credit is taken for the steam condensing mode of operation at NMP-2, therefore, these valves do not perform any safety-related function and need not be included in the IST program.

10. Are 2RHS*RVV35A, RVV35B, RVV36A, and RVV36B relief valves or simple check valves? If they are check valves, they should be exercised

as Category C valves in accordance with the requirements of IWV-3520.

RESPONSE:

These vacuum breakers are not simple check valves; they are relief valves with adjustable setpoints which are tested per IWV-3510 and need not be exercised in accordance with IWV-3520.

11. Deleted

12. If valves 2RHS*V47, V48, V60, and V61 perform a safety-related function in the closed position as identified in the IST program valve table, then their reverse flow closure should be individually verified.

RESPONSE:

This is an OPEN ITEM for the licensee to determine if any or all of these valves perform a safety function in the closed position.

13. Deleted

14. Do valves 2RHS*V17 and V18 perform a safety-related function in the closed position? If so, reverse flow closure should be verified for each of these check valves in accordance with the Code requirements.

RESPONSE:

This is an OPEN ITEM for the licensee to determine if either or both of these valves perform a safety function in the closed position.

15. Deleted

16. Deleted

17. Does valve 2RHS*V3 perform a safety-related function in the closed position? If so, reverse flow closure should be verified in accordance with the Code requirements.

RESPONSE:

This valve does not perform a safety-related function in the closed position. However, it is verified closed by monitoring the RHR header parameters during power operations.

18. Is credit taken in any Nine Mile Point, Unit 2, accident analyses for the operation of the steam condensing mode of the residual heat removal system? If so, valves 2RHS*V13 and V14 (P&ID PID-31D-4 coordinates H-5 and H-2 respectively) should be included in the IST program and tested in accordance with the Code.

RESPONSE:

No credit is taken for the steam condensing mode of operation of the RHR system.

O. Fuel Pool Cooling and Clean Up System

1. How are the following valves full-stroke exercised quarterly?

2SFC*V300A	2SFC*V301A	2SFC*V302
2SFC*V300B	2SFC*V301B	2SFC*V303

RESPONSE:

These anti-siphon valves are exercised open by passing air through them into the spent fuel pool using an air test setup connected to the valves.

2. Review the safety-related function of valves 2SFC*HV35A, HV35B, HV54A, and HV54B (P&IDs PID-38A-1 and 38B-1) to determine if they should be included in the IST program. Do these valves have required fail-safe positions?

RESPONSE:

These are Category B-passive valves which have no testing requirements and need not be included in the IST program.

3. What safety-related systems provide cooling to the spent fuel pool? Are all of the safety-related pumps and valves in these systems included in the IST program and tested to the Code requirements?

RESPONSE:

The service water system is the safety-related cooling supply to the spent fuel pool cooling heat exchangers. All active safety-related valves in this system are included in the IST program and tested to the Code requirements.

P. Standby Liquid Control System

1. Provide a more detailed technical justification for not verifying forward flow operability of valves 2SLS*MOV5A, MOV5B, and V10 during cold shutdowns (refer to Relief Request No. SLS-VRR-1).

RESPONSE:

The licensee will provide a justification for not exercising these valves during cold shutdowns.

2. Provide a more detailed technical justification for not verifying reverse flow closure of valves 2SLS*V12 and V14 during cold shutdowns (refer to Relief Request No. SLS-VRR-2). How is forward flow operability of these valves verified during testing?

RESPONSE:

These check valves perform a safety function in both the forward and the reverse flow directions. Their safety function in the closed direction is to prevent the loss of the injection capability of both standby liquid control pumps in the event that one of the pump discharge relief valves fails open. The licensee will provide additional information in the relief request. The full-stroke capability is verified by measuring flow during the quarterly pump tests using ultrasonic flow measurement instruments.

3. Review the safety-related function of valve 2SLS*HCV116 (P&ID PID-36A-6 coordinates I-3) to determine if it should be included in the IST program and tested to the Code requirements.

RESPONSE:

This is a manual locked-closed valve that performs no active safety-related function and need not be included in the IST program.

Q. Service Water System

1. Review the safety-related function of the following valves to determine if they should be included in the IST program and tested to the Code requirements.

2SWP*MOV93A	2SWP*FV47A	2SWP*V1028
2SWP*MOV93B	2SWP*FV54A	

RESPONSE:

These valves do not perform a safety-related function and need not be included in the IST program.

2. Provide a more detailed technical justification for not exercising valves 2SWP*V202A, V1024, V1025, and V1027 during cold shutdowns (refer to Relief Request No. SWP-VRR-2).

RESPONSE:

The licensee will modify relief request SWP-VRR-2 to add additional technical justifications for not testing these valves during each cold shutdown. For shorter cold shutdowns, the heat loads may be too high to secure a division of service water to perform this testing. The utility expressed a concern that securing a division of service water for valve testing may place the plant in an LCO. The reviewers stated that a reduction in redundancy is not a valid justification for not performing component testing in accordance with Section XI.

3. Review the safety-related function of valves 2SWP*MOV1A, MOV1B, MOV1C, MOV1D, MOV1E, and MOV1F (P&IDs PID-11A-7 and 11B-5) to determine if they should be included in the IST program and tested to the Code requirements.

RESPONSE:

These valves do not perform a safety-related function and need not be included in the IST program.

4. <u>Deleted</u>

5. <u>Deleted</u>

6. The Nine Mile Point, Unit 2 IST program valve table does not indicate that remote valve position indication verification is performed for valves 2SWP*AOV78A and AOV78B. Are these valves equipped with remote valve position indication? If so, this indication should be verified in accordance with the Code requirements.

RESPONSE:

This is a typographical error and the IST program will be corrected to identify a "PI-T" test for these valves.

7. Where "periodic testing" is identified in the remarks section for service water system valves, if this testing frequency is less than quarterly then a cold shutdown justification or relief request must be provided for the increased interval.

RESPONSE:

These valves are tested quarterly. The reference to "periodic testing" will be removed from the remarks section of the IST program.

8. Provide a more detailed technical justification for not exercising valves 2SWP*MOV77A and MOV77B during cold shutdowns (refer to Relief Request No. SWP-VRR-1).

RESPONSE:

The licensee will modify relief request SWP-VRR-1 to add additional justifications for not testing these valves during each cold shutdown. The service water demands may be too high during cold shutdowns to establish conditions that permit this testing.

9. <u>Deleted</u>

10. The valve listing table indicates that valves 2SWP*V219A and V219B perform a safety-related function in the closed position, therefore, the reverse flow closure of these valves should be verified during quarterly testing?

RESPONSE:

These valves perform a safety function only in the open position to allow service water flow to the control and relay room chiller. The IST program will be changed to delete the closed safety position for these valves.

11. Do valves 2SWP*TV35A and TV35B (P&ID PID-11J-6, coordinates G-6 and B-6) have required fail-safe positions? If so, they should be included in the IST program and tested in accordance with the Code requirements.

RESPONSE:

These valves are control valves which do not have required fail-safe positions and therefore need not be included in the IST program because they are exempted by IWV-1200. The licensee may perform an evaluation to determine if these valves should have fail-safe actuators.

12. How is the reverse flow closure of valves 2SWP*V75A and V75B verified during quarterly testing?

RESPONSE:

This remains an OPEN ITEM for the licensee to further review these valves to determine if they perform a safety function in the closed position. If they do, a relief request will be submitted to verify valve reverse flow closure during refueling outages. The licensee proposed to verify closure of these valves by listening to an audible sound when the valves are stroked closed. The reviewers indicated that listening to an audible sound does not provide a positive indication of valve position.

13. Provide a more detailed technical justification for not exercising valves 2SWP*MOV50A and MOV50B quarterly during power operations.

RESPONSE:

The licensee will modify cold shutdown justification SWP-VCS-1 to include additional information for not exercising valves 2SWP*MOV50A and MOV50B quarterly during power operations. Exercising these valves would require modifying service water lineups and could result in system transients which could possibly lead to a plant trip.

14. Never verifying the full-stroke capability of valves 2SWP*V1002A and V1002B is not an acceptable proposal. What other alternate testing methods and frequencies have been considered for verifying the full-stroke capability of these valves (refer to Valve Relief Request SWP-VRR-3).

RESPONSE:

The licensee will further evaluate the flow required to full-stroke exercise these valves. If it is determined that design accident flow can be verified through valves 2SWP*V1002A and V1002B, then these valves can be considered to be full-stroke exercised and no relief request is necessary. However, if it is determined that this methodology cannot verify the ability of these valves to pass design accident flow, the licensee will further evaluate alternate means of verifying the full-stroke capability of these valves.

R. Reactor Water Cleanup System

1. Provide a more detailed technical justification for not exercising valve 2WCS*MOV112 and MOV200 quarterly in accordance with the Code requirements (refer to cold shutdown test justification WCS-VCS-1).

RESPONSE:

The licensee will provide additional justifications for not exercising these valves quarterly during power operations in cold shutdown test justification WCS-VCS-1.

2. Review the safety-related function of valves 2WCS*MOV128 and MOV129 (P&ID PID-67A-6, coordinates E-9) to determine if they should be included in the IST program and tested to the Code requirements.

RESPONSE:

These valves do not perform a safety-related function and need not be included in the IST program.

S. Reactor Vessel Instrumentation

1. How are valves 2ISC*RV33A, RV33B, RV34A, RV34B, RV35A, RV35B, RV36A, and RV36B verified to full-stroke exercise quarterly? Are these valves simple check valves?

RESPONSE:

These valves have air operators which are used to full-stroke exercise the valves monthly. These are not simple check valves, they are testable vacuum breakers.

T. Hydrogen Recombiner System

1. Provide a more detailed technical justification for not exercising 2HCS*MOV26A and MOV26B quarterly (refer to valve relief request HCS-VRR-1.)

RESPONSE:

The licensee will provide additional justifications for not exercising these valves quarterly in relief request HCS-VRR-1.

2. PUMP TESTING PROGRAM

1. Deleted

2. Deleted

3. What is the technical basis for the allowable vibration velocity ranges identified in General Pump Relief Request No. GPRR-1? Are the indicated ranges based on peak vibration readings or on RMS values?

RESPONSE:

The licensee described the basis for their proposed allowable ranges for pump vibration velocity measurements. The proposed ranges are based on information obtained at ANSI/ASME working group meetings. The proposed ranges are more conservative than ranges that have previously been found acceptable by the NRC and, therefore, they should be acceptable. The vibration velocity measurements are peak measurements.

4. The Nine Mile Point Nuclear Station, Unit 2 pump inservice testing program does not address the observation of pump lubricant level or pressure. Describe how this IST test quantity is observed as required by Section XI, IWP-3100.

RESPONSE:

The licensee complies with the requirements of IWP-3100 for the observation of pump lubricant level or pressure and this will be addressed in their program resubmittal.

5. General relief cannot be granted from the pump bearing temperature measurement requirements for all safety-related pumps in the IST program (refer to Relief Request No. GPRR-3). For pumps with installed temperature sensors, the annual measurement of bearing

temperatures should be performed since it is not excessively burdensome to measure this parameter as required by the Code.

RESPONSE:

Relief Request No. GPRR-3 is acceptable.

6. Relief Request No. EGF-PRR-1 for the diesel fuel oil transfer pumps indicates that flow rate is determined by measuring day tank level versus time during pump quarterly testing. The system P&ID shows a flow instrument in the normal flow path to the day tank, why isn't this instrument used to perform this testing? If the change in day tank level versus time method is utilized, does it meet the accuracy requirements of IWP-4110?

RESPONSE:

The diesel fuel oil transfer pump flows are now being measured using installed flow rate instruments which meet the accuracy requirements of the Code. Relief Request EGF-PRR-1 will be deleted.

7. Review the safety-related function of the ICS system pressure pump 2ICS*P2 (P&ID PID-35D-3, coordinates G-5) to determine if it should be included in the IST program and tested to the Code requirements.

RESPONSE:

This pump does not perform a safety-related function and need not be included in the IST program.

8. Lack of adequate instrumentation is not an acceptable justification for not measuring standby liquid control pump flow rates to the Code required accuracies during pump quarterly testing (refer to Relief Request No. SLS-PRR-1). Can new instrumentation be obtained or the existing instrumentation be calibrated differently such that the measured pump flow rates meet the requirements of IWP-4110?

RESPONSE:

The licensee cannot obtain better than 3% accuracy using their present instrumentation and calibration techniques. The licensee will continue to evaluate the availability of instrumentation that would offer increased accuracies. This ongoing process will be identified in the relief request.

9. Deleted

10. Deleted

11. Deleted

12. The proposed testing, for condenser water pumps 2SWP*P2A and P2B, does not provide sufficient information to utilize to determine pump hydraulic condition and detect hydraulic degradation (refer to Relief Request No. SWP-PRR-1). What other alternative testing methods have been considered for determination of the hydraulic condition of these pumps? What is the safety-related function of these pumps?

RESPONSE:

These pumps perform a safety function to recirculate water through the chillers to prevent them from freezing during periods of cold weather and low heat loads. No additional testing can be performed on these pumps. The licensee will add some additional information in their relief request.

13. The Code specifically allows expanded ranges for pump test parameters when the Code specified ranges cannot be met. Where the licensee cannot meet the Code specified ranges for specific pumps in the IST program less restrictive limits may be used. However, a general relaxation from the Code requirements for all pumps in the NMP-2 IST program cannot be granted. (Refer to General Pump Relief Request No. GPRR-2.)

RESPONSE:

The licensee will modify this relief request to include only problem pumps. There will be separate relief requests for the service water, reactor core isolation cooling, and the control building air conditioning pumps.